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<b>TRANSMITTAL FORM</b>  (to be used for all correspondence after initial filing)	Application Number	10/044,743
	Filing Date	January 11, 2002
	First Named Inventor	John W. Ladd
	Art Unit	3729
	Examiner Name	R. Chang
Total Number of Pages in This Submission	Attorney Docket Number	2269-4584.2US (00-0787.02/US)

ENCLOSURES (check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input checked="" type="checkbox"/> Appeal Brief (12 pages); Claims Appendix (4 pages) <input checked="" type="checkbox"/> Communication Accompanying Appeal Brief (2 pages) <input type="checkbox"/> Status Letter <input type="checkbox"/> Other Enclosure(s) (please identify below):
<b>Remarks</b>  The Commissioner is authorized to charge any additional fees required but not submitted with any document or request requiring fee payment under 37 C.F.R. §§ 1.16 and 1.17 to Deposit Account 20-1469 during pendency of this application.		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Firm	TrackBritt, P.C.		
Signature			
Printed Name	Brick G. Power		
Date	November 16, 2006	Reg. No.	38,581

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Person Making Deposit: <u>Brett Hooke</u>	

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

**In re Application of:**

John W. Ladd

**Serial No.:** 10/044,743

**Filed:** January 11, 2002

**For:** METHODS FOR MAGNETICALLY  
ESTABLISHING AN ELECTRICAL  
CONNECTION WITH A CONTACT OF A  
SEMICONDUCTOR DEVICE  
COMPONENT (as amended)

**Confirmation No.:** 3846

**Examiner:** R. Chang

**Group Art Unit:** 3729

**Attorney Docket No.:** 2269-4584.2US

**NOTICE OF EXPRESS MAILING**

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**APPEAL BRIEF**

Mail Stop Appeal Brief – Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Attn: Board of Patent Appeals and Interferences

Sir:

This APPEAL BRIEF is being submitted in the format required by 37 C.F.R.

§ 41.37(c)(1). The fee required by 37 C.F.R. § 41.20(b)(2) has already been paid.

(1) REAL PARTY IN INTEREST

U.S. Application Serial No. 10/103,671 (hereinafter "the '671 Application"), the application at issue in the above-referenced appeal, has been assigned to Micron Technology, Inc., as evidenced by the assignment that has been recorded with the U.S. Patent & Trademark Office (hereinafter "the Office") at Reel No. 011543, Frame No. 0511. Accordingly, Micron Technology, Inc., is the real party in interest in the above-referenced appeal.

(2) RELATED APPEALS AND INTERFERENCES

There are currently no other related appeals, interferences, or other actions of which appellants or their representatives are aware that may have a bearing on the outcome of the decision of the Board of Patent Appeals and Interferences (hereinafter "the Board") in the above-referenced appeal.

(3) STATUS OF CLAIMS

There are currently twenty (20) claims pending in the '671 Application. Of these, claims 1-9 and 11-20 have been considered, while claim 10 has been withdrawn from consideration.

Final rejections have been presented against claims 1-9 and 11-20. The final rejections of claims 1-9 and 11-20 are being appealed.

No claim has been allowed.

(4) STATUS OF AMENDMENTS

The most recent claim amendments were presented in the '671 Application in an Amendment under 37 C.F.R. § 1.116 that was mailed on July 7, 2005.

Despite several attempts to convince the Examiner of the patentability of claims 1-9 and 11-20 over the art of record, a final Office Action was mailed on March 14, 2006, and an Advisory Action followed on June 6, 2006. Accordingly, a Notice of Appeal was filed in the '671 Application on June 14, 2006.

The Notice of Appeal is followed by this APPEAL BRIEF, which is being submitted by August 14, 2006 – within two months of the date on which the Notice of Appeal was filed.

(5) SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent claim 1 of the above-referenced application is directed to a method for establishing electrical contact with at least one semiconductor device. *See, e.g.*, paragraph [0013]; FIGs. 2-5. In such a method, an electrical contact may be established between a first member of an electrical connector and a contact that is in electrical communication with at least one semiconductor device by drawing the first member toward the contact to at least temporarily maintain the electrical contact. *See, e.g., id*; FIGs. 2 and 3, reference characters 22 and 16, 18; Fig. 3A, reference characters 22' and 16, 18; Fig. 5, reference characters 22'' and 16, 18.

Independent claim 8 of the '671 Application recites a method for stress testing semiconductor devices that are carried upon a common substrate with common ground and power contacts. *See, e.g.*, paragraphs [0013] and [0014]; Figs. 1-5. Such a method includes establishing electrical contact between a first member of an electrical connector and at least one contact of the ground contact and the power contact and drawing the first member toward the at least one contact to at least temporarily maintain the electrical contact. *See, e.g., id.*; Figs. 2 and 3, reference characters 22 and 16, 18; Fig. 3A, reference characters 22' and 16, 18; Fig. 5, reference characters 22'' and 16, 18. The act of drawing may be effected with another, second member of the electrical connector (claim 11; *see also*, paragraph [0013] and [0014]; Figs. 2 and 3, reference character 24; Fig. 3A, reference character 24'; Fig. 5, reference character 24'') where, for example, at least one of the first and second members is drawn toward the other (claim 12; *see also*, paragraphs [0013] and [0014]), such as by magnetic attraction (claim 13, *see also*, paragraph [0013]).

(6) GROUND OF REJECTION TO BE REVIEWED ON APPEAL

(A) The rejection of claims 1-9 and 14-17 under 35 U.S.C. § 103(a) for being drawn to subject matter that is assertedly unpatentable over the subject matter taught in U.S. Patent 3,855,693 to Umbaugh (hereinafter "Umbaugh");

(B) The 35 U.S.C. § 103(a) rejection of claims 11-13 for being directed to subject matter that is allegedly not patentable over the subject matter taught in Umbaugh, in view of teachings from Butherus; and

(C) The rejection of claims 18-20 under 35 U.S.C. § 103(a) for reciting subject matter which is assertedly unpatentable over teachings from Umbaugh, in view of teachings of which the Office purports it can take “official notice.”

(7) ARGUMENT

(A) REJECTIONS UNDER 35 U.S.C. § 103(a)

Claims 1-9 and 11-20 stand rejected under 35 U.S.C. § 103(a).

(1) UMBAUGH

Claims 1-9 and 14-17 have been finally rejected under 35 U.S.C. § 103(a) for being drawn to subject matter that is assertedly unpatentable over the subject matter taught in Umbaugh.

(a) LEGAL AUTHORITY

The standard for establishing, maintaining, and upholding a rejection under 35 U.S.C. § 103(a) is set forth in M.P.E.P. § 706.02(j), which provides:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

(b) ART RELIED UPON

*Umbaugh*

Umbaugh teaches an assembly process by which cantilevered leads 20 that comprise ferromagnetic material are magnetically drawn toward corresponding terminals 14 of a substrate while the leads are bonded or otherwise permanently secured to their corresponding terminals. Col. 2, lines 58-68. FIGs. 2 and 3 of Umbaugh illustrate the process of securing cantilevered magnetic leads 20 to their corresponding terminals 14. Umbaugh teaches that, in this process, “[t]he end 30 of [a] cantilevered lead 20 may be coated with flux 37 to promote an outer-lead bond by solder [36] reflow.” Col. 4, lines 63-66. The cantilevered magnetic leads 20 are magnetically drawn to their corresponding terminals 14. *See* col. 7, lines 40-54; col. 4, line 44, to col. 5, line 6. When the leads 20 are sufficiently close to their corresponding terminals 14, the leads 20 may be permanently secured and electrically connected to their corresponding terminals 14 with solder. *See, id.*

(c) ANALYSIS

It is respectfully submitted that there are several reasons why Umbaugh does not support a *prima facie* case of obviousness against any of claims 1-9 and 14-17.

First, it is respectfully submitted that Umbaugh does not teach or suggest each and every element of any of claims 1-9 or 14-17. Specifically, Umbaugh lacks any teaching or suggestion that the magnetism of the leads 20 is useful for anything other than bringing the leads 20 in

proximity to their corresponding terminals 14 so that solder 36 may be positioned between the leads 20 and terminals 14 to establish permanent electrical connections therebetween.

While it has been asserted that “Umbaugh discloses in FIG. 4 a plurality of chips making connections and they are all inherently and obviously require power and ground, as well as a constant amount of current” (Final Office Action, page 2), it is respectfully submitted that FIG. 4 does not show electrical connection between leads 20 and terminals 14. Rather, FIG. 4 quite clearly shows leads 20 that have not yet been drawn toward or soldered to terminals 14. This observation is supported by Umbaugh’s statement that the leads 20, “are separated from the surface 27” of a carrier substrate 12. Col. 5, line 12. Thus, the leads 20 are also separated from their corresponding terminals 14. Without contacting one another, or without a conductive element therebetween, as is the case in FIG. 4, it is not understood how leads 20 could electrically communicate with their corresponding terminals 14.

The description of FIG. 4 relates merely to the manner in which a semiconductor chip 12 and carrier substrate 12 are assembled with one another, as well as to the materials from which various features are formed. *See, e.g.*, col. 5, lines 7-45.

Again, it is submitted that Umbaugh is completely devoid of any teaching or suggestion that the magnetism of leads 20 could be used to establish and at least temporarily maintain an electrical contact between leads 20 and terminals 14, as would be required for Umbaugh to teach or suggest each and every element of independent claim 1 and independent claim 8.

Second, it is respectfully submitted that, without the benefit of hindsight that the above-referenced application has provided to the Examiner, one of ordinary skill in the art wouldn’t have been motivated to modify teachings from Umbaugh in the manner that has been



asserted. Specifically, because Umbaugh teaches that the use of solder 36 is necessary to establish and maintain electrical connections between leads 20 and terminals 14, it is respectfully submitted that one of ordinary skill in the art wouldn't have been motivated to modify the teachings of Umbaugh in such a way as to rely completely upon magnetic attraction between leads 20 and terminals 14 to establish and maintain electrical contacts therebetween.

Third, it is respectfully submitted that one of ordinary skill in the art wouldn't have had any reason to expect that the asserted modification of the teachings from Umbaugh would be successful. This is because the teachings of Umbaugh relate entirely to processes for permanently assembling semiconductor device components to one another, not to methods for establishing temporary communication between an electrical connector and a contact in communication with at least one semiconductor device, as recited in independent claims 1 and 8.

Each of claims 2-7 is allowable, among other reasons, for depending directly or indirectly from claim 1, which is allowable.

Claims 9 and 14-17 are each allowable, among other reasons, for depending directly or indirectly from claim 8, which is allowable.

It is respectfully submitted that a *prima facie* case of obviousness has not been established against any of claims 1-9 or 14-17. Therefore, under 35 U.S.C. § 103(a), the subject matter recited in claims 1-9 and 14-17 is allowable over the subject matter taught in Umbaugh.

(2) UMBAUGH IN VIEW OF BUTHERUS

Claims 11-13 have been rejected under 35 U.S.C. § 103(a) for being drawn to subject matter that is allegedly not patentable over the subject matter taught in Umbaugh, in view of teachings from Butherus.

(a) ADDITIONAL ART RELIED UPON

*Butherus*

The teachings of Butherus relate to the use of magnetism during assembly to align leads with corresponding terminals on the carrier substrate. Col. 1, lines 6-31. The leads are then permanently bonded (*e.g.*, with solder) to the terminals to establish and maintain electrical contact therebetween. Col. 2, lines 71-75.

(b) ANALYSIS

It is respectfully submitted that teachings from Umbaugh and Butherus do not support a *prima facie* case of obviousness against any of claims 11-13 for at least two reasons.

First, it is respectfully submitted that neither Umbaugh nor Butherus teaches or suggests each and every element of any of claims 11-13. Like Umbaugh, Butherus lacks any teaching or suggestion that first and second members of an electrical connector may be used (*e.g.*, magnetically or otherwise drawn toward one another) to establish or at least temporarily maintain electrical contact between leads and contacts. Further, Umbaugh and Butherus both lack any teaching or suggestion that such electrical contact may be established or maintained during a stress testing process.

Second, Butherus does not remedy the aforementioned deficiencies of Umbaugh, including provision of the missing motivation to modify teachings from Umbaugh in such a way as to come up with the invention recited in independent claim 8, from which claims 11-13 depend, or provide one or ordinary skill in the art with any reason to expect that the teachings of Umbaugh and Butherus could be combined in such a way as to render obvious each and every element of any of claims 11-13.

Additionally, each of claims 11-13 is allowable, among other reasons, for depending directly or indirectly from claim 8, which is allowable.

As such, teachings from Umbaugh and Butherus do not support a *prima facie* case of obviousness against any of claims 11-13.

(3) UMBAUGH IN VIEW OF OFFICIAL NOTICE

Claims 18-20 are rejected under 35 U.S.C. § 103(a) for reciting subject matter which is assertedly unpatentable over teachings from Umbaugh, in view of teachings of which the Office purports it can take "official notice."

Claims 18-20 are allowable, among other reasons, for depending from claim 8 which is allowable.

Reversal of the 35 U.S.C. § 103(a) rejections of claims 1-9 and 11-20 is respectfully requested, as is the allowance of each of these claims.

(B) ELECTION OF SPECIES REQUIREMENT

In the Office Action of July 25, 2003, it was noted that “[if] independent claim 8 is allowed, [withdrawn] claim 10 will be rejoined.” In view of the allowability of independent claim 8, it is respectfully requested that claim 10 be considered and allowed. *See also* M.P.E.P. § 806.04(d).

(8) CLAIMS APPENDIX

The current status of each claim that has been introduced into the ‘256 Application is set forth in CLAIMS APPENDIX to this Appeal Brief.

(9) EVIDENCE APPENDIX

No evidence has been submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132. Accordingly, no evidence appendix accompanies this Appeal Brief.

(10) RELATED PROCEEDINGS APPENDIX

No decisions have been rendered by the Board or any court in a related application. Therefore, this Appeal Brief is not accompanied by a related proceedings appendix.

(11) CONCLUSION

It is respectfully submitted that:

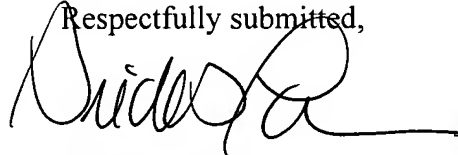
(A) Under 35 U.S.C. § 103(a), the subject matter to which claims 1-9 and 14-17 is drawn is allowable over the subject matter taught in Umbaugh;

(B) Claims 11-13 are allowable under 35 U.S.C. § 103(a) for being drawn to subject matter that is allowable over teachings from Umbaugh, in view of the teachings of Butherus; and

(C) Each of claims 18-20 recites subject matter that, under 35 U.S.C. § 103(a), is allowable over the subject matter taught in Umbaugh, in view of teachings of which the Office purports it can take "official notice."

Accordingly, reversal of the final rejections of claims 1-9 and 11-20 is respectfully solicited, as are the consideration of claim 10 and the allowance of each of claims 1-20.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Brick G. Power", written over the typed name.

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Date: November 16, 2006  
BGP/eg  
Document in ProLaw



Serial No. 10/044,743

## CLAIMS APPENDIX

1. A method for establishing an electrical contact with at least one semiconductor device, comprising:  
establishing an electrical contact between a first member of an electrical connector and a contact that is in electrical communication with the at least one semiconductor device; and  
drawing the first member toward the contact to at least temporarily maintain the electrical contact.
2. The method of claim 1, wherein the drawing is effected in a direction substantially normal to a plane of the contact.
3. The method of claim 1, wherein the drawing is effected in a direction substantially normal to a plane of a substrate upon which the contact is carried.
4. The method of claim 1, wherein the drawing is effected by positioning a second member of the electrical connector opposite the first member.
5. The method of claim 4, wherein the drawing is effected by magnetically attracting at least one of the first member and the second member toward at least the other of the first member and the second member.

6. The method of claim 4, wherein the drawing comprises securing the first and second members to a substrate upon which the contact is carried.
7. The method of claim 1, wherein the drawing comprises magnetically attracting the first member against the contact.
8. A method for stress testing a plurality of semiconductor devices carried upon a common substrate and in communication with common ground and power contacts, comprising:  
establishing electrical contact between a first member of an electrical connector and at least one contact of the ground contact and the power contact; and  
drawing the first member toward the at least one contact to at least temporarily maintain the electrical contact.
9. The method of claim 8, wherein the drawing is effected in a direction substantially normal to a plane of the substrate.
10. The method of claim 8, wherein drawing nonrigidly biases the first member against the at least one contact.
11. The method of claim 8, wherein the drawing comprises positioning a second member of the electrical connector opposite the substrate from the first member.

12. The method of claim 11, wherein at least one of the first member and the second member is drawn toward at least the other of the first member and the second member.

13. The method of claim 12, wherein the drawing comprises magnetically attracting at least one of the first member and the second member toward at least the other of the first member and the second member.

14. The method of claim 8, wherein the drawing comprises magnetically attracting the first member against the at least one contact.

15. The method of claim 8, wherein the drawing comprises securing at least the first member in position relative to the substrate.

16. The method of claim 8, further comprising:  
electrically connecting another first member of another electrical connector to another of the  
ground contact and the power contact; and  
drawing the another first member toward the another contact.

17. The method of claim 16, further comprising:  
applying a substantially constant amount of current to each semiconductor device of the plurality  
of semiconductor devices through the first member and the another first member.



18. The method of claim 17, further comprising:  
heating each of the plurality of semiconductor devices.

19. The method of claim 18, wherein the heating comprises cycling a temperature of  
each of the plurality of semiconductor devices.

20. The method of claim 18, wherein the heating comprises varying a temperature of  
each of the plurality of semiconductor devices.



**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**In re Application of:**

John W. Ladd

**Serial No.:** 10/044,743

**Filed:** January 11, 2002

**For:** METHODS FOR MAGNETICALLY  
ESTABLISHING AN ELECTRICAL  
CONNECTION WITH A CONTACT OF A  
SEMICONDUCTOR DEVICE  
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**COMMUNICATION ACCOMPANYING APPEAL BRIEF**

Mail Stop Appeal Brief—Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Examiner:

This communication is accompanied by an Appeal Brief that has been revised pursuant to the Notification of Non-Compliant Appeal Brief that was mailed on November 8, 2006.

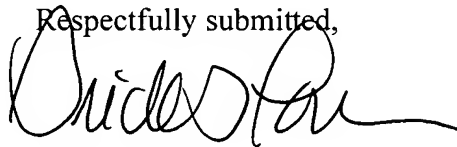
The Notification indicated that the previously submitted Appeal Brief was non-compliant for lacking proper STATUS OF AMENDMENTS and SUMMARY OF CLAIMED INVENTION sections. The specific reasoning behind the objections to the Appeal Brief is unclear from the Notification. Upon review of the pertinent Rules, it is respectfully submitted that the originally filed Appeal Brief was in full compliance with the Rules.

In any event, the STATUS OF AMENDMENTS section of the Appeal Brief has been revised to indicate when the last amendment to the claims was made.

The SUMMARY OF CLAIMED INVENTION section of the Appeal Brief has been revised to more clearly identify the subject matter associated with each independent claim. It is noted that the as-filed specification of the above-referenced application lacks line numbers and, instead, includes paragraph numbers, as has now been common practice before the U.S. Patent & Trademark Office for several years. Accordingly, for the sake of clarity, reference to the specification is made by way of the paragraph numbers that have been set forth in the specification, rather than to the specific page and line numbers. In addition, reference to non-limiting examples of the claimed subject matter, as set forth in the drawings of the above-referenced application, have also been included in the SUMMARY OF CLAIMED INVENTION.

If there are any additional issues that need to be resolved before the Appeal Brief may be considered, an explanation as to the legal basis for such issues and the identification of specific parts of the Appeal Brief that need to be revised would be appreciated.

Respectfully submitted,



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